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10/723,813	11/25/2003	Farid Adrangi	P17492	8002

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EXAMINER
O CONNOR, BRIAN T

ART UNIT	PAPER NUMBER
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/723,813	ADRANGI ET AL.
Office Action Summary	Examiner	Art Unit	
	BRIAN T. O'CONNOR	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 October 2008</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-5,7-14,16-23 and 25-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5,7-14,16-23 and 25-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action is in response to applicant's amendment filed on 10/31/2008.

2.   Claims 1-5, 7-14, 16-23, and 25-27 are currently pending.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yuan (US 6,496,704) in view of Perkins (Perkins, "IP Mobility Support for IPv4",

RFC3344, IETF, August 2002) and further in view of Magret (US 6,856,624) and further

in view of Song et al (US 7,065,067; hereafter Song) and further in view of Johnson et

al. (US 6,625,135; hereafter Johnson).

        With respect to claims 1 and 10, Yuan discloses a system and technique for

mobile systems (24 of Figure 1; column 1, lines 45-54; where the mobile system is

viewed as equivalent to a mobile node) to register in an internal network (22 of Figure 1)

or an external network (32 of Figure 1) by using a DHCP server (column 5, lines 14-20;

where the mobile node must issue a DHCP request to obtain an address). The mobile

system or host will send a registration request from a home agent or HA with the HA

address (100 of Figure 5) and then register with the HA (MOBILE HOST, HA, 90 of

Figure 4). Yuan also discloses that the mobile system will roam from an Ethernet (internal) network to a cellular (external) network (Figure 6; column 9, lines 23-37). Yuan also discloses that the mobile unit can move to an external network (118, 112, 138 of Figure 6) and continue to issue DHCP requests (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address) that reply with addresses for additional HAs.

Yuan fails to disclose extensions with the registration reply that identify the HA as part of an internal network or an external network and an extension as an internal registration reply extension or an external registration reply extension; and that the mode unit will register with a second HA if the registration fails for a first HA attempt.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38; where the Mobile-Home is an internal extension and the Foreign-Home is an external extension). In addition, Perkins discloses that when a mobile node has multiple HA addresses and if the first registration fails then the mobile node will try to register with the next HA address (first paragraph, pg 26).

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the system and method of Yuan.

One of ordinary skill in the art would realize the benefit of increased connectivity for mobile units by continuing to attempt registration in the even of one failure. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Perkins with the system and method of Yuan.

Yuan also fails to disclose examining the registration reply to identify an extension and determining if the mobile node/system is on an internal network or an external network.

Magret, in an invention of Mobile IP registration, discloses a mobile node that receives a registration reply (122 of Figure 7) and examines the reply to decide if a foreign agent was the sender (128 of Figure 7; column 9, line 66 – column 10, line 7). One of ordinary skill in the art would realize the same procedure would be used to decide if the reply arrived from an external or internal network.

Magret realizes the advantage of avoiding duplicate and ambiguous IP address by checking whether the registration reply is from a foreign (external) agent. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Magret with the system and method of Yuan.

Yuan does not disclose a first DHCP server and a second DHCP server in two separate networks.

Song discloses a first DHCP server (24 of Figure 1) in a first network and a second DHCP server (34 of Figure 1) in a second network (column 5, lines 10-14) for supporting IP address assignment to mobile nodes (column 5, lines 15-24).

The use of DHCP servers in separate networks as-taught by Song is a known technique is the art and would be used to support DHCP requests in mobile networks. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the DHCP servers as taught by Song with the method of Yuan.

Yuan does not disclose attempting to request with an address for a first home agent and then upon failure to register with the first home agent issuing a second DHCP request.

Johnson discloses a mobile registration request (Abstract) that tries to register with an address for a first home agent (68 of Figure 10; ACQUIRE to CARE-OF-WAIT) and then upon failure to register with the first home agent issuing a second DHCP request (68 of Figure 10; CARE-OF-WAIT to ACQUIRE).

The use of multiple registration attempts as taught by Johnson is a known technique is the art and would be used to support DHCP requests in mobile networks. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple registration attempts as taught by Johnson with the method of Yuan.

With respect to claim 2, Yuan further discloses the HA is in the home or internal network (70, 62 of Figure 3).

With respect to claim 11, Yuan further discloses the HA is in the home or internal network (70, 62 of Figure 3).

Yuan fails to disclose an extension as an internal registration reply extension or an external registration reply extension.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg

33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home

(32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-

38).

Perkins realizes the advantage of increased security by using security

parameters, authenticators, and extension types with a registration reply (first

paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at

the time of the invention to use the extensions of Perkins with the system and method of

Yuan.

With respect to claims 3 and 12, Yuan further discloses that the mobile system

or node may be on a home or internal network (62 of Figure 3) or a foreign or external

network (64 of Figure 3).

Yuan fails to disclose an extension as an internal registration reply extension or

an external registration reply extension.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg

33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home

(32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-

38).

Perkins realizes the advantage of increased security by using security

parameters, authenticators, and extension types with a registration reply (first

paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at

the time of the invention to use the extensions of Perkins with the system and method of

Yuan.

With respect to claims 4 and 13, Yuan further discloses an MDIS device (152

of Figure 7) which acts as an encapsulation device for protocol tunneling. Yuan

describes this technique and system as a virtual private network (VPN) connection

(column 11, line 60 – column 12, line 8) and it must include a registration reply with a

VPN address to the mobile unit can perform the encapsulation of data packets.

With respect to claims 5 and 14, Yuan further discloses that when the mobile

unit (118 of Figure 8) is using a default HA on an external network (154 of Figure 8)

then the encapsulation and VPN technique is used (162, 166 of Figure 8) and the

mobile unit must store the VPN address for the external home agent in order to conduct

the encapsulation technique.

With respect to claims 7 and 16, Yuan further discloses a situation where the

second home agent is a foreign or external home agent (178 of Figure 9).

With respect to claims 8 and 17, Yuan further discloses that when the mobile

node (118 of Figure 7) is in an external network (112 of Figure 7) and the HA uses an

internal address (154 of Figure 7), an MDIS device (152 of Figure 7) which acts as an

encapsulation device is used for protocol tunneling. Yuan describes this technique and

system as a virtual private network (VPN) connection (column 11, line 60 – column 12,

line 8). Yuan also discloses using a secure connection with CDPD protocol (Figure 9;

column 2, lines 46-58).

With respect to claims 9 and 18, Yuan further discloses completing registration (Figure 4) with the secure CPDP protocol (Figure 9; column 2, lines 46-58).

5.   Claims 19-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan in view of Perkins in view of Magret and further in view of Song and further in view of Johnson and further in view of Kumar et al. (US 7,085,279 hereafter Kumar).

With respect to claim 19, Yuan discloses a method for mobile systems (24 of Figure 1; column 1, lines 45-54; where the mobile system is viewed as equivalent to a mobile node) to register in an internal network (22 of Figure 1) or an external network (32 of Figure 1) by using a DHCP server (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address). The mobile system or host will send a registration request from a home agent or HA with the HA address (100 of Figure 5) and then register with the HA (MOBILE HOST, HA, 90 of Figure 4). Yuan also discloses that the mobile system will roam from an ethernet (internal) network to a cellular (external) network (Figure 6; column 9, lines 23-37). Yuan also discloses that the mobile unit can move to an external network (118, 112, 138 of Figure 6) and continue to issue DHCP requests (column 5, lines 14-20; where the mobile node must issue a DHCP request to obtain an address) that reply with addresses for additional HAs.

Yuan fails to disclose extensions with the registration reply that identify the HA as part of an internal network or an external network and an extension as an internal

registration reply extension or an external registration reply extension; and that the mode unit will register with a second HA if the registration fails for a first HA attempt.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38; where the Mobile-Home is an internal extension and the Foreign-Home is an external extension). In addition, Perkins discloses that when a mobile node has multiple HA addresses and the first registration fails then the mobile node will try to register with the next HA address (first paragraph, pg 26) in the group of HA addresses.

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the system and method of Yuan.

One of ordinary skill in the art would realize the benefit of increased connectivity for mobile units by continuing to attempt registration in the even of one failure. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use this method of Perkins with the method of Yuan.

Yuan also fails to disclose examining the registration reply to identify an extension and determining if the mobile node/system is on an internal network or an external network.

Magret, in an invention of Mobile IP registration, discloses a mobile node that
receives a registration reply (122 of Figure 7) and examines the reply to decide if a
foreign agent was the sender (128 of Figure 7; column 9, line 66 – column 10, line 7).
One of ordinary skill in the art would realize the same procedure would be used to
decide if the reply arrived from an external or internal network.

Magret realizes the advantage of avoiding duplicate and ambiguous IP address
by checking whether the registration reply is from a foreign (external) agent. Thus it
would have been obvious to one of ordinary skill in the art at the time of the invention to
use this method of Magret with the system and method of Yuan.

Yuan does not disclose a first DHCP server and a second DHCP server in two
separate networks.

Song discloses a first DHCP server (24 of Figure 1) in a first network and a
second DHCP server (34 of Figure 1) in a second network (column 5, lines 10-14) for
supporting IP address assignment to mobile nodes (column 5, lines 15-24).

The use of DHCP servers in separate networks as-taught by Song is a known
technique is the art and would be used to support DHCP requests in mobile networks.
Thus, it would have been obvious to one of ordinary skill in the art at the time of the
invention to use the DHCP servers as taught by Song with the method of Yuan.

Yuan does not disclose attempting to request with an address for a first home
agent and then upon failure to register with the first home agent issuing a second DHCP
request.

Johnson discloses a mobile registration request (Abstract) that tries to register

with an address for a first home agent (68 of Figure 10; ACQUIRE to CARE-OF-WAIT)

and then upon failure to register with the first home agent issuing a second DHCP

request (68 of Figure 10; CARE-OF-WAIT to ACQUIRE).

The use of multiple registration attempts as taught by Johnson is a known

technique is the art and would be used to support DHCP requests in mobile networks.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to use the multiple registration attempts as taught by Johnson with the method

of Yuan.

Yuan fails to disclose a computer or machine readable medium with instructions

to perform his method.

Kumar, in the same field of endeavor, discloses a computer readable medium

storing a program to perform a connection setup over a packet network in conjunction

with a switching network. The computer-readable medium is an electronic, magnetic,

optical, or other physical device or means that can be contain or store a computer

program for use by or in connection with a computer-related system or method (column

7, lines 51-67). One skilled in the art would have clearly recognized that the method of

Yuan would have been implemented in a software module. The implemented software

would perform the function with less expense and more flexibility. Therefore, it would

have been obvious to have used the technique in Yuan and implement it as taught by

Kumar in order to reduce cost and improve the adaptability and flexibility of the

networking system.

With respect to claim 20, Yuan further discloses the HA is in the home or internal network (70, 62 of Figure 3).

With respect to claim 21, Yuan further discloses that the mobile system or node may be on a home or internal network (62 of Figure 3) or a foreign or external network (64 of Figure 3).

Yuan fails to disclose an extension as an internal registration reply extension or an external registration reply extension.

Perkins discloses a mobile IP registration reply with extensions (section 3.4, pg 33; UDP header diagram, pg 34) and three different types of extension: Mobile-Home (32), Mobile-Foreign (33), and Foreign-Home (34) (sections 3.5.2, 3.5.3, 3.5.4, pg 37-38).

Perkins realizes the advantage of increased security by using security parameters, authenticators, and extension types with a registration reply (first paragraph, pg 37). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the extensions of Perkins with the method of Yuan.

With respect to claim 22, Yuan further discloses an MDIS device (152 of Figure 7) which acts as an encapsulation device for protocol tunneling. Yuan describes this technique and system as a virtual private network (VPN) connection (column 11, line 60 – column 12, line 8) and it must include a registration reply with a VPN address to the mobile unit can perform the encapsulation of data packets.

With respect to claim 23, Yuan further discloses that when the mobile unit (118 of Figure 8) is using a default HA on an external network (154 of Figure 8) then the

encapsulation and VPN technique is used (162, 166 of Figure 8) and the mobile unit

must store the VPN address for the external home agent in order to conduct the

encapsulation technique.

With respect to claim 25, Yuan further discloses a situation where the second

home agent is a foreign or external home agent (178 of Figure 9).

With respect to claim 26, Yuan further discloses that when the mobile node

(118 of Figure 7) is in an external network (112 of Figure 7) and the HA uses an internal

address (154 of Figure 7), an MDIS device (152 of Figure 7) which acts as an

encapsulation device is used for protocol tunneling. Yuan describes this technique and

system as a virtual private network (VPN) connection (column 11, line 60 – column 12,

line 8). Yuan also discloses using a secure connection with CDPD protocol (Figure 9;

column 2, lines 46-58).

With respect to claim 27, Yuan further discloses completing registration (Figure

4) with the secure CPDP protocol (Figure 9; column 2, lines 46-58).

Response to Arguments

6.   Applicant's arguments with respect to claims 1, 10, and 19 have been considered

but are moot in view of the new ground(s) of rejection necessitated by the addition of

"DHCP servers" and "multiple registration request" to each of the independent claims 1,

10, and 19.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to BRIAN T. O'CONNOR whose telephone number is

(571)270-1081. The examiner can normally be reached on 9:00AM-6:30PM, M-F.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BTO/
Brian T. O'Connor
February 12, 2009
Patent Examiner

/Hassan Kizou/
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